

REMARKS

Claims 1-11 stand rejected under 35 USC 103(a) as being unpatentable over Hansen et al. in view of newly cited Saito et al. (U.S. patent 6,288,890). The Examiner states that Saito et al. show a composite dielectric ceramic/polymer, citing col. 3, lines 46-47.

It is true that Saito et al. teach a composite dielectric material composed of an organic polymer and a metal oxide, which metal oxide may be considered to be a ceramic material. However, it is also true that the Saito et al.'s composite material is fundamentally different from that described by Applicants.

At col. 14, lines 52 and 53, in the description of the Fifth Exemplary Embodiment, Saito et al. state that in Fig. 12, a compound dielectric layer is shown, the compound dielectric layer composed of a polymer film 12 and an aluminum oxide film 18. This is not the same as Applicants' compound dielectric material. Applicants' compound dielectric material is not composed of separate layers or films of polymer and oxide. Rather, it is composed of a ceramic powder and a polymer matrix which surrounds and encapsulates the individual powder particles. This is apparent from the description of the method

by which the composite material is formed, i.e., a milled ceramic material is mixed with a solution of a monomer in a solvent, after which the mixture is dried by removing the solvent. The resulting powder is then granulated, pressed into an integrated body or mass, and heated to polymerize the monomer. See, e.g., page 4, lines 30-34 through page 5, line 3 of Applicants' specification.

An additional heating step may also be carried out. See page 5, line 9.

Thus, Applicant's composite dielectric material is composed of an intimate mixture of ceramic particles and a polymer, not a layered structure of an oxide film and a polymer film. In order to make this distinction clear, claims 1, 7, 11 and 12 have been amended to specify that the ceramic material is in the form of a powder.

Saito et al. also disclose an alternate method of forming a composite dielectric ceramic material by forming a polymer film on a previously anodized aluminum film. See col. 16, lines 27-29. However, this also results in a layer or film of polymer next to a layer or film of oxide, i.e., an anodized aluminum oxide layer or film on the surface of the aluminum film).

Saito et al. fails to teach or even suggest that a composite dielectric may be a single integral body or mass formed by an intimate mixture of ceramic powder and polymer material.

Since the previously cited Hansen et al. and Hirai et al. both employ organic materials in the conventional manner, i.e., to temporarily bind ceramic particles together prior to sintering, not to permanently bind ceramic particles together during use, the combination of Saito et al. with the previously cited Hansen et al. fails to render Applicants' claims 1-11 unpatentable. Similarly, the combination of Saito et al. with the previously cited Hirai et al. fails to render Applicants' claim 12 unpatentable. In view of this, it is urged that both of the rejections under Section 103(a) are in error and should be withdrawn.

Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,



John C. Fox
Consulting Patent Attorney
Reg. No. 24975
203-329-6584

APPENDIX A

MARKED UP AMENDED CLAIMS

1. An electronic component with a dielectric and at least one electrode, characterized in that the dielectric comprises a composite consisting of a powder of a dielectric ceramic material and an organic polymer.

7. A method of manufacturing an electronic component with a dielectric and at least two electrodes, which method is characterized in that

- ~~the~~ a powder of a dielectric ceramic material and a monomer of a polymer are mixed together,
- the mass obtained is formed,
- the monomer is partly or completely polymerized, and
- the electrodes are provided.

11. A dielectric ceramic compound, characterized in that it comprises a composite of a powder of a dielectric ceramic material and an organic polymer.

12. A filter arrangement with an electronic component which comprises a dielectric and at least two electrodes, characterized in that the dielectric comprises a composite of a powder of a dielectric ceramic material and an organic polymer.